MAGNAVOX
SERVICE MANUAL

Manual No. 6509

File: Volume 13
Miscellaneous Section
First Issue: November, 1977

SERVICE DEPARTMENT/ MAGNAVOX CONSUMER ELECTRONICS COMPANY
FORT WAYNE, INDIANA 46804

BH7514 ODYSSEY

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GENERAL INFORMATION

The BH7514 can be powered by either 6 "C" cells or an optional AC to DC voltage adaptor.

The BH7514 features games of "Tennis", "Hockey", "Smash" and "Practive", with skill levels from "Amateur" to "Professional" using "Ball Speed", "Ball Angle", and "Player Size" for the more demanding enthusiast. Serving can be either "Manual", by depressing the "Serve" button or "Automatic". Automatic features include "on-screen" scoring which awards a point to the appropriate player or team each time the ball leaves the playing area. "Automatic Serve" will return the ball into play from the side that was awarded the point. This sequence will be repeated until a score of "15" is reached by one side, after which the ball will continue to bounce around with no further hits or scores. Depressing "Reset" will change the score to indicate "0"-"0" and the ball will be served randomly from the left or right side.

During play three audio tones will be generated to indicate that the ball has touched the top or bottom walls, the player has hit the ball, or that a score has been made.

SERVICE ADJUSTMENTS

2 MHz Oscillator Adjustment

1. Connect a frequency counter in series with a 10K resistor and a .01 pf. capacitor to Pin 17 of U1, and adjust L1 for 2.01 MHz ± 1%.

Channel 3 RF Oscillator Adjustment

1. Connect the Odyssey to an operating TV and defeat the TV's AFT.
2. Place the TV Channel Selector to Channel 3, mechanically center the fine tuning, and set the Odyssey Channel Selector Switch to Channel 3.
3. While observing the game display, adjust CT1 for optimum response.

NOTE: Channel 4 of the Odyssey is non-adjustable.

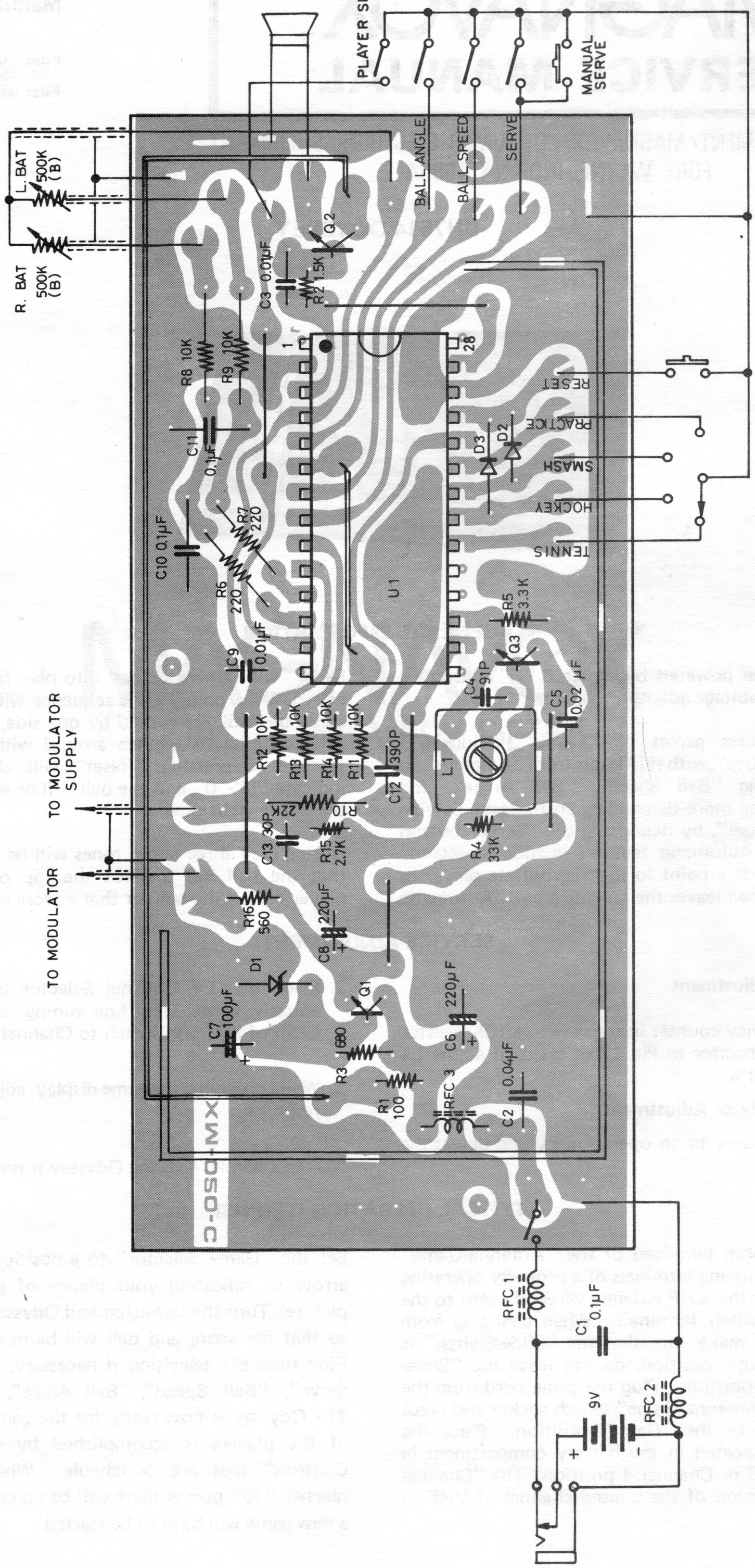
TYPICAL OPERATION (TENNIS)

Connect the 300 ohm twin-lead of the "Antenna-Game" switch to the VHF antenna terminals of a properly operating television. Connect the VHF antenna wires (if used) to the "Antenna-Game" switch terminals. When changing from game to television, make sure that the "Slide-Switch" is moved to the extreme position, do not leave the "Slide-Switch" in the mid-position. Plug the game cord from the Odyssey into the "Antenna-Game" switch socket and place the "Slide-Switch" to the "Game" position. Place the "Channel Switch" located in the battery compartment in either the Channel 3 or Channel 4 position. The "Channel Switch" is for selection of the unused channel of VHF in your area.

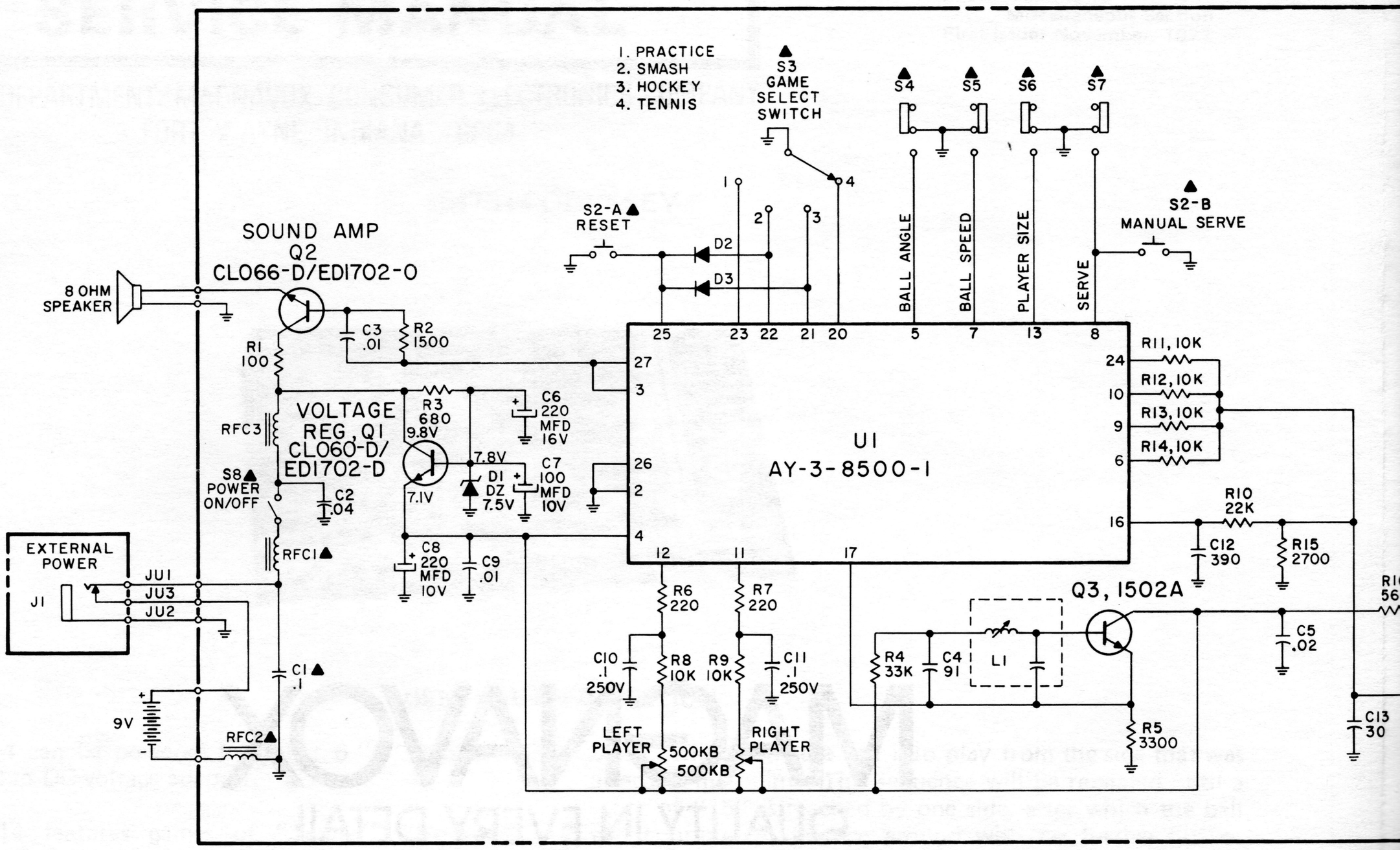
Set the "Game Selector" to a position so that the double arrow is indicating your choice of games by name and picture. Turn the television and Odyssey On. Push "Reset" so that the score and ball will be in the starting position. Fine tune the television if necessary. Select desired "Ball Serve", "Ball Speed", "Ball Angle", and "Player Size". The Odyssey is now ready for the game to begin. Control of the players is accomplished by rotating the "Player Controls" that are detachable. When either contestant reaches "15" points there will be no control of the ball and a new game will have to be started.

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MAIN P.C. BOARD (COMPONENT VIEW)



BH7514 SCHEMATIC



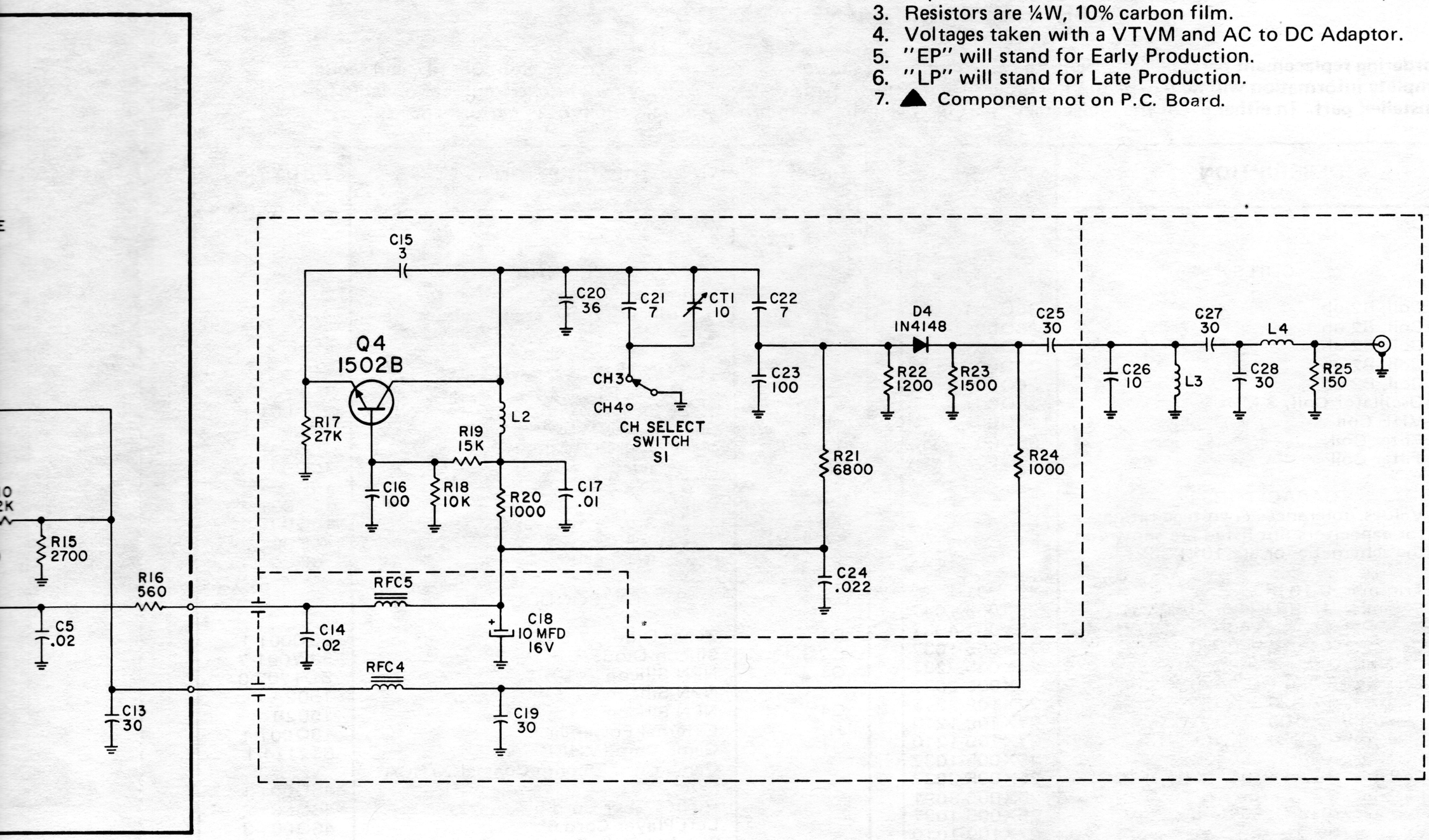
U1 VOLTAGE CHART

Pin	Selection	Notes
1	-----	Not Used
2	0.00V	Ground
3	Pulse	Sound
4	7.13V	VCC
5	6.95V/0.00V	Amateur/Professional (Ball Angle)
6	-----	Video (Ball Output)
7	6.93V/0.00V	Amateur/Professional (Ball Speed)
8	6.91V/0.00V	Manual/Auto (Serve)
9	-----	Video (Right Player Output)
10	-----	Video (Left Player Output)
11	1.00V to 6.62V	Varies (Right Bat Input)
12	1.00V to 6.62V	Varies (Left Bat Input)
13	6.90V/0.00V	Amateur/Professional (Bat Size)
14	-----	Not Used
15	-----	Not Used
16	5.45V	Sync Output
17	5.00V	Clock Input
18	6.85V	Not Used
19	6.85V	Not Used
20	6.85V/0.00V	Not Selected/Selected (Tennis)
21	6.85V/0.00V	Not Selected/Selected (Hockey)
22	6.85V/0.00V	Not Selected/Selected (Smash)
23	6.85/0.00V	Not Selected/Selected (Practice)
24	-----	Video (Score and Field Output)
25	6.92V/0.00V	Open/Closed (Reset)
26	0.00V	Ground
27	Pulse	Sound
28	-----	Not Used

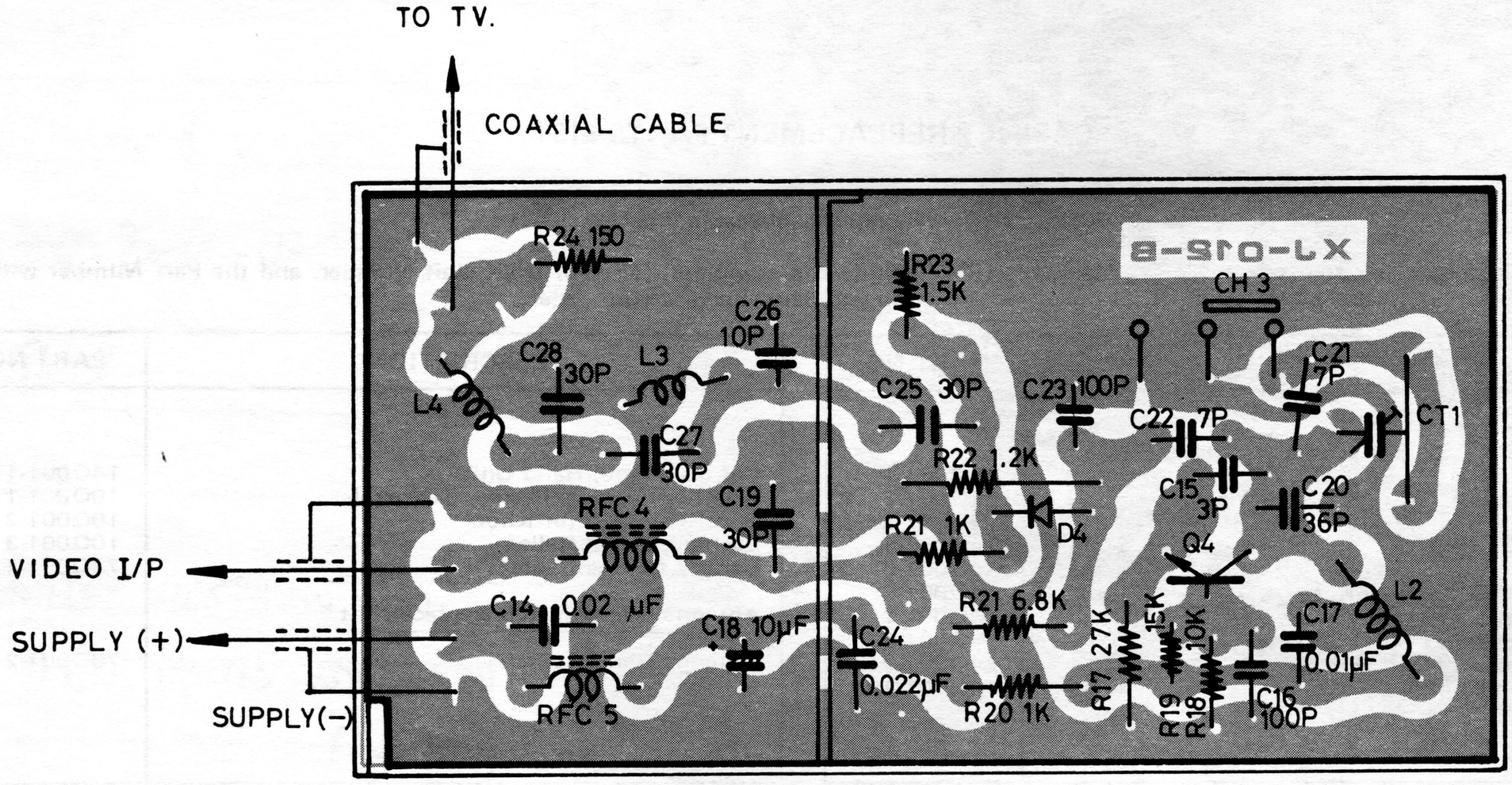
4 SCHEMATIC DIAGRAM

NOTES:
UNLESS OTHERWISE SPECIFIED

1. Capacitance values of 1 or greater are in picofarads, 10%,500V.
2. Capacitance values of less than 1 are in microfarads,10%,500V.
3. Resistors are ¼W, 10% carbon film.
4. Voltages taken with a VTVM and AC to DC Adaptor.
5. "EP" will stand for Early Production.
6. "LP" will stand for Late Production.
7. ▲ Component not on P.C. Board.



MODULATOR P.C. BOARD (COMPONENT VIEW)



BH7514 REPLACEMENT PARTS LIST

Note: When ordering replacement parts please specify the part number as shown in this list including Description, Chassis, and Model Number. Complete information will help expedite the order. Replacement parts may occasionally differ in part number or value from the Factory installed part. In either event the replacement part has been chosen to provide equal or improved performance.

REF.	DESCRIPTION	PART NO.
	COILS	
RFC1	Coil, 82 uh	36Q001-1
RFC2	Coil, 82 uh	36Q001-1
RFC3	Coil, 82 uh	36Q001-1
RFC4	Coil, 82 uh	36Q001-1
RFC5	Coil, 82 uh	36Q001-1
L1	Oscillator Coil, 2 MHz	36Q001-2
L2	VHF Coil	36Q001-3
L3	Filter Coil	36Q001-4
L4	Filter Coil	36Q001-4
	CAPACITORS Values, tolerances & voltage ratings for capacitors not listed are shown on the schematic, or are 10%, 25V.	
CT1	Trimmer, 0-10 pf.	26Q001-1
C1	Ceramic, .1 mfd., +80/-20%, 25V	25X008-1047
C2	Ceramic, .04 uf., +80/-20%, 25V	25X007-4037
C3	Ceramic, .01 uf., +80/-20, 25V	25X005-1037
C5	Ceramic, .022 uf., +80/-20%, 25V	25X005-2237
C5	Ceramic, .02 uf., +80/-20%, 25V	25X005-2037
C6	Electrolytic, 220 uf., 16V	27X109-2215
C7	Electrolytic, 100 uf., 10V	27X109-1210
C8	Electrolytic, 220 uf., 10V	27X109-1210
C9	Ceramic, .01 uf., +80/-20%, 25V	25X005-1037
C14	Ceramic, .02 uf., +80/-20%, 25V	25X005-2037
C15	Ceramic, 3 pf., ± 0.5 pf., 25V	25X005-3091
C17	Ceramic, .01 uf., +80/-20%, 25V	25X005-1037
C18	Electrolytic, 10 uf., 25V	27X109-1010
C20	Temp. Comp., 36 pf., ± 10%, NPO	25X021-3609
C21	Ceramic, 7 pf., ± 0.5 pf., 25V	25X005-7091
C22	Ceramic, 7 pf., ± 0.5 pf., 25V	25X005-7091
C24	Ceramic, .022 uf., +80/-20%, 25V	25X005-2237

REF.	DESCRIPTION	PART NO.
	RESISTORS Values, tolerance & wattages for resistors not listed are shown on the schematic, or are 5%, ¼W.	
	CONTROLS & SWITCHES	
	500 KB Player Control	22Q001-1
S1	Channel Select Switch	16Q001-1
S2-A/B	Manual Serve-Reset Switch Ass'y.	70Q001-1
S3	Game Selector Switch	16Q001-4
S4	Ball Angle Switch	16Q001-2
S5	Ball Speed Switch	16Q001-2
S6	Player Size Switch	16Q001-2
S7	Serve Switch	16Q001-2
S8	Power Switch	16Q001-3
	SEMICONDUCTORS	
D1	Zener Diode, 7.5V	53Q001-1
D2,3,4	Silicon Diode	53W001-7
Q1,2	NPN Silicon	ED1702-0
Q3	NPN Silicon	1502A
Q4	NPN Silicon	1502B
J1	External Power Jack	18Q001-1
U1	Game Chip (VHF)	612114-1
	Game Cord,75 ohm,Coaxial w/RCA Plug	46Q001-1
	Right Player Cord 5'	46Q001-2
	Left Player Cord 6'	46Q001-3
	Speaker 2¼", 8 ohm	58Q001-1
	Speaker Clamp	73Q001-2
	Instruction Booklet	IB3280-1

CABINET REPLACEMENT PARTS LIST

Note: The cabinet parts listed in this parts list are the only service replaceable cabinet parts.

When ordering any replacement parts from this ISM, include the complete Ten (10) Digit Unit Number, and the Part Number with Description as shown in this parts list. Complete information will help expedite your order.

DESCRIPTION	PART NO.
Top Cabinet	14Q001-1
Bottom Cabinet	14Q001-2
Battery Door	14Q001-3
Front Panel	14Q001-4
Game Select Switch	14Q001-5
Terminal Plate Game Cord & DC Jack	14Q001-6
Top Cabinet Hand Unit (Home Team)	14Q001-7
Top Cabinet Hand Unit (Visiting Team)	14Q001-8
Bottom Cabinet Hand Units	14Q001-9
Push Button Knob	14Q001-10

DESCRIPTION	PART NO.
Control Knob, Hand Units	14Q001-11
Wire Spring, Neg. Battery Terminal	10Q001-1
Clip Ring, Selector Knob	10Q001-2
Bushing, Strain Relief	10Q001-3
Battery Contact Plate	73Q001-1
Antenna Game Switch Replacement	
Antenna Game Switch	70Q001-2

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